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much clearer since the discharge of electrons from hot bodies has been investigated for the relatively low temperatures of the electric furnace, this action having been shown to persist at very high pressures. The high stellar temperatures, especially when combined with low pressure, may thus be expected to duplicate the electronic speeds obtained in the arc and spark by steep potential gradients, a condition established by much evidence as favorable to the enhanced lines.

The enhanced lines in the chromosphere would thus seem to be due to the rarefied conditions at these levels of the solar atmosphere, which would allow a high speed to be retained by the electrons expelled by the heated matter below. The strength of the enhanced lines would also seem to be a valuable criterion as to the temperatures prevailing in stars and in different regions of the solar photosphere at levels where the electrified particles are produced. Thus the reduced strength of enhanced lines in sun-spot spectra seems valid evidence of a lower temperature for the photosphere of those regions, since such a reduced temperature, the pressure being assumed essentially the same, would result in the production of lower-speed electrons.

VOLUME VII, PUBLICATIONS OF THE LICK OBSERVATORY.

This volume, whose title is "Contributions of the Berkeley Astronomical Department (Students' Observatory), University of California, I," is now being distributed to the correspondents of the Lick Observatory. It comprises ten parts, seven of which are devoted to the exposition of LEUSCHNER'S Short Methods of Determining Orbits, and to practical applications of these methods to the computation of the orbits of comets, asteroids and satellites. The theoretical papers are by Professor A. O. LEUSCHNER, while the chapters giving the practical applications are by Professor R. T. CRAWFORD, and by assistants and students in the Students' Observatory.

The volume also contains a paper "On Astronomical Refraction" by Professor CRAWFORD, and two papers by Dr. B. L. NEWKIRK entitled, respectively, "Tables for the Reduction of Photographic Measures" and "Investigation of the Repsold Measuring Apparatus."

Parts I, II and III of the volume were printed in 1902; the following parts were prepared and partly printed in subsequent years from 1905 to 1911, but lack of University funds at the State Printing Office prevented the completion of the volume until the present time.

NOTE ON COMET *a* 1914 (KRITZINGER).

The first comet of this year was discovered by KRITZINGER at Bothkamp, Germany, on March 28th. From observations of March 29th by KRITZINGER, of March 30th by PALISA in Vienna, and of April 1st by HAYNES at the Lick Observatory, Miss SOPHIA H. LEVY and I derived the orbit of the comet.

Our results show that it is moving in a plane inclined $23^{\circ} 36'$ to the plane of the ecliptic. At the time of discovery the comet was approaching both the Sun and the Earth. It makes its nearest approach to the Sun on the 31st of May at a distance of 116.6 million miles. Its closest approach to the Earth will also be in the latter part of May. It will come within less than fifty million miles of the Earth. The comet will continue to increase in brightness until the end of May or first part of June, when it will begin to fade away rapidly.

The elements of the orbit, together with an ephemeris extending to April 19th, were published in *Lick Observatory Bulletin*, No. 253.

R. T. CRAWFORD.

BERKELEY ASTRONOMICAL DEPARTMENT,
May 16, 1914.

A NEW COMET.

Telegrams received at the Lick Observatory on Monday, May 18th, announced the discovery of a comet by M. ZELATINSKY, an amateur astronomer in Russia, and gave observations of it made on the nights of May 16th and May 17th by M. SCHORR and M. VAN DER BILT, respectively.

As seen with the 12-inch refractor on the evening of May 18th, the comet appeared to be of about the seventh magnitude, with a sharply marked disk-like nucleus placed somewhat north of and preceding the center of the coma. No definite evidence of a tail was presented. The very rapid motion indicated that the comet was near the Earth, and this has been confirmed by